Appendices

APPENDIX A
National Reference Levels for Sodium, Cholesterol, Carbohydrate, and Dietary Fiber

	National Research Council *Diet and Health* Recommendations (1989)	American Health Foundation (renamed, Institute for Cancer Prevention)	Nutrition Facts Label (FDA)	American Heart Association
Sodium	2400 mg/day or 800 mg/lunch, 600 mg/breakfast	—	2400 mg /day or 800 mg /lunch, 600 mg/breakfast	2400mg /day or 800 mg /lunch, 600 mg/breakfast
Fiber	—	Age + 5 g dietary fiber (For children 2-20 years of age)	25 g fiber/day for 2000 calories a day or 30 g fiber for 2500 calories a day (adults)	—
Cholesterol	< 300 mg/day	—	< 300 mg /day	< 300 mg /day
Carbohydrate	Breakfast and Lunch > 55% of total calories	—	Breakfast and lunch % daily value (DV) 60% of total calories	—

Note: While these national organizations and Federal agencies have developed recommended levels for these dietary components for adults, there is no consensus among the scientific community for their consuption for children, especially sodium.

APPENDIX B
Age to Grade Comparison Chart

Age	Grade
5	K
6	1
7	2
8	3
9	4
10	5
11	6
12	7
13	8
14	9
15	10
16	11
17	12

APPENDIX C
Foods of Minimal Nutritional Value

Competitive Foods
Competitive foods means any foods sold in competition with the Program to children in food service areas during the lunch periods.

Foods of Minimal Nutritional Value (FMNV)
A Food of Minimal Nutritional Value means:

1. In the case of artificially sweetened foods, a food which provides less than five percent of the Reference Daily Intakes (RDI) for each of eight specified nutrients per serving and is included in one of the Categories of Foods of Minimal Nutritional Value (FMNV) listed in Appendix B to 7 CFR Part 210. Those categories include (1) soda water, (2) water ices, (3) chewing gum, and (4) certain candies, including (i) hard candies, (ii) jellies and gums, (iii) marshmallow candies, (iv) fondant, (v) licorice, (vi) spun candy, and (vii) candy-coated popcorn.

2. In the case of all other foods, a food which provides less than five percent of the RDI for each of eight specified nutrients per 100 calories and less than five percent of the RDI for each of eight specified nutrients per serving and is included in one of the Categories of FMNV listed in Appendix B to 7 CFR Part 210 (see categories above).

3. The eight nutrients to be assessed for FMNV include (a) protein, (b) vitamin A, (c) vitamin C, (d) niacin, (e) riboflavin, (f) thiamin, (g) calcium, and (h) iron.

4. All foods falling into one of the Categories of FMNV in Appendix B to 7 CFR Part 210 are considered to be FMNV unless the Food and Nutrition Service has been petitioned and has granted an exemption for the particular food. Any person may submit a petition to the Food and Nutrition Service requesting that an individual food be exempted from a category of Foods of Minimal Nutritional Value. In determining whether an individual food is a FMNV, discrete nutrients added to the food will not be taken into account. Procedures for applying for an exemption are provided in Appendix B to 7 CFR Part 210. Interested persons may contact the Nutrition and Technical Services Division of the Food and Nutrition Service at (703) 305-2556 for additional information.

General Information
State agencies and school food authorities shall establish such rules or regulations as are necessary to control the sale of foods in competition with lunches served under the Program. Such rules or regulations shall prohibit the sale of FMNV in the food service areas during the lunch periods. The sale of other competitive foods may, at the discretion of the state agency and school food authority, be allowed in the food service area during the lunch period only if all income from the sale of such foods accrues to the benefit of the nonprofit school food service or the school or student organizations approved by the school. State agencies and school food authorities may impose additional restrictions on the sale of and income from all foods sold at any time throughout schools participating in the Program.

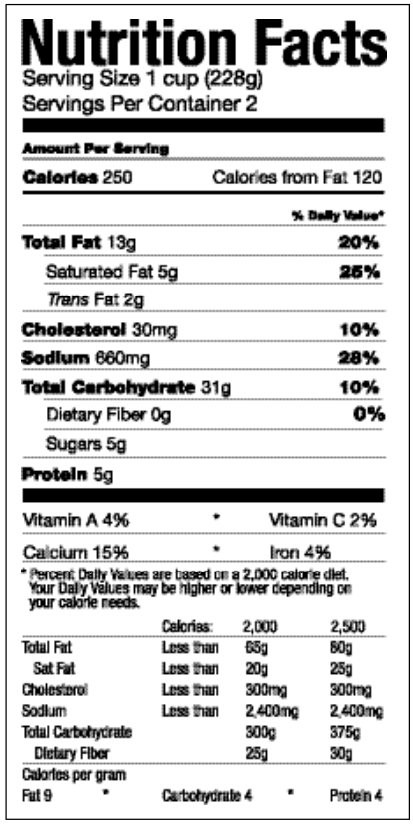
APPENDIX D
USDA-Approved Nutrient Analysis Software Requirements

Description of Software Requirements and Functions

- Nutrient Standard Menu Planning software, which meets the specifications for use in the Child Nutrition Program, must comply with the following criteria:
- All of the appropriate files and fields from the Child Nutrition (CN) Database must be incorporated into the software (standard reference foods, USDA standardized recipe food items, commodity foods, manufacturer's foods, weights and measures, and the USDA *Food Buying Guide*).
- Users cannot alter information provided by the CN Database; however, user-entered information can be edited or deleted.
- The user will be able to enter new food items into a local database from information provided in a manufacturer's fact sheet or food label in nutrients per serving or specific weight, or percent of the Daily Reference Value (DRV).
- The software will automatically convert measures for weight and volume (if available) at all levels of item entry, recipe development, and menu planning.
- The user will be able to enter recipes; the software will produce a recipe report that includes the recipe code number, recipe name, serving/portion size, yield of the recipe based on number of servings, ingredients, the amount of each ingredient in units appropriate for food service, preparation instructions, and nutrient value of the recipe per serving or per 100 g (with nutrient changes calculated due to moisture/fat factors).
- The Recipe Nutrient Composition Report will contain the nutrient value contributed by each ingredient and the total nutrient value of the recipe per serving or per 100 g. The yield of the recipe will be able to be accurately adjusted to meet the needs of the food service without degrading the base recipe.
- A Recipe/Ingredient Cross Reference report will identify recipes that contain a certain food ingredient.
- Menus for a specific site can be developed and copied to another site or data range and the serving sizes adjusted for various age groups.
- Menu Reports will be available in both calendar and report formats.
- A Menu Production Record can be printed for use by foodservice workers to determine the quantities and serving sizes of food to prepare for a specific site.

- The Standard and Modified RDA data sets provided USDA are incorporated into the software and used for comparison in nutrient analyses. A new nutrient standard (e.g., age 5-11) can be created, simply by entering the age or age range of the new grouping.
- A Weighted Nutrient Analysis of an individual menu or range of menu dates can be provided. A summary of the calculated nutrient value of the menu is then compared to the nutrient standards of a selected age group and deficiencies highlighted.
- The software will search the database for food items containing specific nutrients, so that menus can be adjusted to meet the nutrient standards.
- The nutrient composition of all food items and recipes in the databases (CN Database and local database) can be printed, including all nutrients/components (calories, protein, carbohydrate, fat, saturated fat, Vitamin A, Vitamin C, iron, calcium, cholesterol, sodium, dietary fiber, and the percentage of calories from protein, carbohydrate, fat, and saturated fat).
- Training Documents and the User's Manual must be presented in a complete, sequential, easy-to-understand format. The developer must have a system to update the database whenever a new release of the CN Database is available.

APPENDIX E
Sample of a Nutrition Facts Label



Nutrition Facts

Serving Size 1 cup (228g)
Servings Per Container 2

Amount Per Serving

Calories 250	Calories from Fat 120
	% Daily Value*
Total Fat 13g	**20%**
Saturated Fat 5g	**25%**
Trans Fat 2g	
Cholesterol 30mg	**10%**
Sodium 660mg	**28%**
Total Carbohydrate 31g	**10%**
Dietary Fiber 0g	**0%**
Sugars 5g	
Protein 5g	

Vitamin A 4%	•	Vitamin C 2%	
Calcium 15%	•	Iron 4%	

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram
Fat 9 • Carbohydrate 4 • Protein 4

For more information on the Nutrition Facts Label visit the FDA Web site at http://www.cfsan.fda.gov/~dms/foodlab.html

APPENDIX F
Manufacturers' Data Submission Form

For directions on how to fill out this form, see reverse side.

1. Product Identification

PRODUCT NAME: _____

Brand _____

Product code _____

List CN Label number if appropriate_____

Is this product in the Child Nutrition (CN) Database? ☐ Yes ☐ No

2. Package Size and Servings Per Package

Package Size = ____ grams ____lbs. ____fl. oz.

Standard Serving Size = _____

Number of Servings Per Package = _____

3. Basis for Nutrient Data

Nutrient data is being given: (Check one) ☐ As Served ☐ As Purchased

Analysis is based on: (Check one) ☐ Per Serving ☐ 100 grams

Weight per serving = _____ grams

4. Individual Values of Nutrients and Dietary Components

If you do not have information on a nutrient, write "M" or "missing." If this product does not contain a particular nutrient, write "0."

Calories	___ kcal	Protein	___ grams
Total fat	___ grams	Saturated fat	___ grams
Carbohydrates	___ grams	Sodium	___ milligrams
Total dietary fiber	___ grams	Cholesterol	___ milligrams

Calcium . . . . . ___ milligrams -or- ____% DV (Daily Value)

Iron . . . . . ___ milligrams -or- ____% DV

Vitamin C . . . . . ___ milligrams -or- ____% DV

Vitamin A . . . . . ___ IU -or- ___RE -or- ____% of DV

IU = International Units, RE = Retinol Equivalents

5. Fat and Moisture Gain/Loss

When this product is prepared, there is a:

Fat change (+/-) ___% Moisture change (+/-) _____%

6. Special Instructions for Preparation (if appropriate)

To prepare this product, the manufacturer recommends: _____

_____

How To Fill Out This Form

USDA has developed this standardized form to help schools obtain information on foods they will be serving to children. They will use this information to develop recipes, analyze menus for nutritional value, and prepare products for lunch or breakfast.

1. **Product Identification:** List name of product (and brand, if appropriate). Also list product code if possible. If you know the product has a CN Label number, list that as well. Check yes or no for CN Database.

2. **Package Size and Servings Per Package:** Write in package size as appropriate in grams, pounds, or fluid ounces. Indicate standard serving size and number of servings per package.

3. **Basis for Nutrient Data:** Indicate with a check mark whether you are submitting nutrient data for this product on an "As Served" or "As Purchased" basis. Use the "As Served" basis for any food that does not have: (1) any ingredients added in preparation or (2) any fat absorbed during preparation.

   Use the "As Purchased" basis for any food that: (1) has ingredients added in preparation (such as milk, eggs, and oil added to baked product mixes); (2) is prepared by frying; (3) can be prepared in varying ways (for example, a food that can be baked or fried); or (4) gains or loses moisture/fat during preparation.

   In addition, indicate whether nutrient analysis is based on 100 grams or per serving. Also indicate weight per serving.

4. **Individual Values of Nutrients and Dietary Components:** Please fill out completely, leaving no lines blank. (1) If you have information on a nutrient, write the specific value in the unit of measurement indicated. (2) If you do not have information on a nutrient, write "M" or "missing." (3) If this product does not contain a particular nutrient, write "0."

5. **Fat and Moisture Gain/Loss:** If you checked "As Purchased" above, also fill in this section if there is a fat or moisture change during preparation.

   (Fat may be gained or lost in cooking some foods, thereby changing the foods' nutrient value. Methods of preparation such as breading, frying, or baking affect this fat gain or loss. For example, chicken baked in the oven will lose fat during cooking, while batter-coated or breaded chicken that is deep fried will gain fat. If fat is absorbed or gained, fat grams and calories from fat will be increased. If fat is lost, fat grams and calories from fat will be decreased.)

6. **Instructions for Preparation:** If appropriate, indicate instructions such as: ingredients to be added, cooking methods, cooking time, and cooking temperature.

APPENDIX G
Raw-To-Cooked Conversion Factor for Selected Vegetables

Food Item (Raw, Ready-To-Cook)	Yield (cooked)
Apples, cored, cut or whole	.85
Asparagus, trimmed	.94
Beets, pared	.94
Cabbage, Green, cored	.94
Carrots, sliced	.91
Cauliflower, stemmed	.98
Celery, trimmed	.89
Chayote (Mirliton), pitted, sliced	.91
Jicama (Yam Bean), peeled, julienned	.97
Malanga (Taro), peeled, diced	1.20
Onions, peeled, cut	.88
Pepper, Bell, stemmed, seeded, cut	.91
Potato, pared	.91
Squash, Yellow, trimmed, sliced	.87
Tomatillo, stemmed, diced	.83
Turnips, pared, cubed	.93
Yautia (Tannier), peeled, diced	1.00
Zucchini, trimmed, cubed	.90

APPENDIX H

Common Moisture and Fat Change Values (%) for Purchased Prepared Foods that are Fried

Food Item	Moisture Change %	Fat Change %
Burrito	-11%	+9.5%
Chicken, Nuggets, or Patties, breaded or battered, pre-fried, frozen	-10%	+4%
Corn Dogs, pre-fried, frozen	-8%	+2.5%
Fish Nuggets, portions, Sticks, breaded or battered, oil-blanched, frozen	-10%	+4%
Funnel Cake, from mix	-31%	+10%
Hush Puppies, pre-fried, oil-blanched, frozen	-8%	+2.5%
Potatoes, French-fried, oil-blanched, frozen	-27.5%	+3.5%
Potatoes, Chopped, and Formed, Rounds and Nuggets, oil-blanched, frozen	-5%	+3.5%
Steak, Chicken Fried, pre-fried, frozen	-10%	+2.5%
Taco Shell, Flour, for Taco Salad	-22%	+19%
Vegetables, battered or breaded (eggplant, okra, squash, etc.)	-20%	+8%

APPENDIX I

Example of Determining Projected Servings Using Weighted Averaging

Projected reimbursable meals: 3,750 based on aggregated past food production records.

	Menu	Projected Servings for Computer Entry	Steps Necessary to Get Final Projected Servings for Computer Entry
Choose One	Chicken Nuggets Spaghetti with Meat Sauce	1750 2000	Numbers based on past food production records of items served in reimbursable meals*
Choose Two	Baked Potato Wedges Seasoned Green Beans Steamed Corn Tossed Salad with Dressing Fresh Fruit Cup	500 1000 1200 1200 500	*
Choose Two	Dinner Roll Corn Muffin Sugar Cookie Sherbet	1000 500 1500 1500	*
Choose One	Whole milk, 3.25% 1% Chocolate Milk Skim Milk 1% Low Fat Milk	250 2000 250 750	*

APPENDIX J

Example of Determining Projected Servings Using Simple Averaging

Projected Reimbursable Meals: 300
(Evenly divisible by number of selections within each grouping)

	Menu	Projected Servings for Computer Entry	Steps Necessary to Get Final Projected Servings for Computer Entry
Choose One	Chicken Nuggets Spaghetti with Meat Sauce	150 150	300 projected meals and 2 selections = 150 servings for each menu choice 150 X 1 choice = 150 servings
Choose Two	Baked Potato Wedges Seasoned Green Beans Steamed Corn Tossed Salad with Dressing Fresh Fruit Cup	120 120 120 120 120	300 projected meals and 5 selections = 60 servings for each choice. 60 X 2 choices = 120 servings
Choose Two	Dinner Roll Corn Muffin Sugar Cookie Sherbet	150 150 150 150	300 projected meals and 2 selections = 75 servings for each menu choice 75X2selections = 150 servings
Choose One	Whole milk, 3.25% 1% Chocolate Milk Skim Milk 1% Low Fat Milk	75 75 75 75	300 projected meals and 4 selections = 75 projected servings for each menu choice 75 X 1 choice = 75 servings

APPENDIX K
Comparison Between Weighted Averages and Simple Averages

Factors to Consider	Weighted Averaging	Simple Averaging
Each food or menu item offered as part of the reimbursable meal is weighted, based on frequency of selection	•	
Each food or menu item offered is given equal weight, within a menu choice, for the meal.	•	•
If menus are planned and analyzed on a SFA basis (central menus), accurate aggregate food production data from all schools, based on past experience and knowledge, is used. This includes number of each food/ menu item served as part of a reimbursable meal, aggregated by age/grade groupings, minus a la carte and adult meals.	•	
Use of standardized recipes required.	•	•
Food production records for each day reimbursable meals are claimed must be maintained. These must include number of reimbursable meals planned and served; all menu or food items planned for reimbursable meals; portion sizes for each age/grade group; recipes used; product identification numbers; total amounts of food planned and served; documentation of a la carte sales (for weighted analysis only), adult and other non-reimbursable meals; and documentation of substitutions and leftovers.	•	•
A separate nutrient analysis for each age/grade grouping is required when different portion sizes are served these age/grade groupings.	•	•
Breakfast and lunch analysis may be combined.	•	
Under NSMP, may allow students to choose a minimum number of side dishes but still allow choice of more; e.g., 2 or more choices.	•	
Recipes for milk, juice, cereal, salad dressings, etc., are weighted for nutrient analysis.	•	
Condiments such as mustard, mayonnaise, and salad dressings are included in the nutrient analysis, equal weight being given to items.		•

APPENDIX L
Menu Substitution/Leftover Form

Menu Substitution/Leftover Form				
Date When Need for Substitution/ Leftover is Known	**Food or Menu Item**	**Substitution or Leftover**	**Approved By**	**Date of Substitution/ Leftover**